In the Claims:

Please amend claims 1, 15 and 25 as indicated below.

1. (Currently amended)   A method for managing a virtual memory in a virtual machine, the method comprising:

executing a process within the virtual machine, <u>wherein the virtual machine provides a platform-independent operating environment on a particular computer platform,</u> wherein the virtual machine comprises a virtual machine virtual memory manager;

the virtual machine virtual memory manager storing objects for the process executing on the virtual machine to a store heap, wherein the objects are for use during execution of the process;

the process referencing a first one of the objects stored in the store heap; and

the virtual machine virtual memory manager copying a section of the store heap including the first object to an in-memory heap in response to the process referencing the first object, wherein the in-memory heap comprises copies of sections of the store heap for the process, and wherein said copying is performed when the first object referenced by the process is in the section of the store heap and not in the in-memory heap when the first object is referenced by the process.

2. (Original)   The method of claim 1, further comprising:

the process modifying the first object in the in-memory heap; and

the virtual machine virtual memory manager replacing the section of the store heap with the copy of the section from the in-memory heap including the first object in response to said modifying the first object in the in-memory heap.

3. (Original)   The method of claim 2, further comprising:

the virtual machine virtual memory manager removing the copy of the section from the in-memory heap after said replacing the section of the store heap.

4. (Original)   The method of claim 1,

wherein the virtual machine is executing on a device;

wherein the device comprises a memory; and

wherein the virtual machine is executing in the memory comprised in the device.

5. (Original)   The method of claim 4,

wherein the device has insufficient execution memory to store an entire heap for the process executing on the virtual machine.

6. (Original)   The method of claim 4,

wherein the device is a network client device.

7. (Original)   The method of claim 1,

wherein the process is executing in a first memory space comprised in the virtual machine;

wherein the in-memory heap is comprised in the first memory space;

wherein a total size of the store heap is greater than available memory space in the first memory space; and

wherein the store heap is comprised in a second memory space.

8. (Original)   The method of claim 1,

wherein the virtual machine is executing on a device; and

wherein the store heap is comprised in a memory device coupled to the device.

9. (Original)   The method of claim 8,

wherein the memory device coupled to the device is a non-volatile memory device.

10. (Original) The method of claim 8,

wherein the memory device coupled to the device is a flash memory;

wherein the store heap comprises a plurality of cache lines; and

wherein the section of the store heap comprises one or more of the plurality of cache lines.

11. (Original) The method of claim 8,

wherein the memory device comprising the store heap is coupled to the device via the Internet so that the virtual machine virtual memory manager copying the section of the store heap to the in-memory heap occurs over the Internet.

12. (Original) The method of claim 1,

wherein the virtual machine is a Java virtual machine; and

wherein the process is a Java application.

13. (Original) The method of claim 1,

wherein the store heap is one of a plurality of store heaps in a persistent store;

wherein each of the plurality of store heaps is associated with one of a plurality of processes; and

wherein the process is one of the plurality of processes.

14. (Original) The method of claim 1,

wherein the objects comprised in the in-memory heap and the store heap comprise code and data for use by the process during execution within the virtual machine.

15. (Currently amended)   A system comprising:

a device configured to execute a virtual machine, <u>wherein the virtual machine provides a platform-independent operating environment on a particular computer platform,</u> wherein the virtual machine is configured to execute a process;

a first memory coupled to the device, wherein the first memory is configured to store a store heap for the process, wherein the store heap is comprised within a virtual heap for the process;

a second memory coupled to the device, wherein the second memory is configured to store an in-memory heap for the process, wherein the in-memory heap is comprised within the virtual heap, wherein the in-memory heap comprises cached portions of the store heap for access by the process;

wherein the device is further configured to execute a virtual machine virtual memory manager, wherein the virtual machine virtual memory manager is configured to:

store objects for the process executing on the virtual machine to the store heap, wherein the objects are for use during execution of the process; and

copy a section of the store heap including a first object to an in-memory heap in response to the process referencing the first object when the first object referenced by the process is in the section of the store heap and not in the in-memory heap.

16. (Original) The system of claim 15,

wherein the virtual machine virtual memory manager is further configured to:

replace the section of the store heap with the copy of the section from the in-memory heap including the first object in response to the process modifying the first object in the in-memory heap; and

remove the copy of the section from the in-memory heap after said replacing the section of the store heap.

17. (Original) The system of claim 15,

wherein the second memory is insufficient to store an entire heap for the process executing on the virtual machine.

18. (Original) The system of claim 15,

wherein the device is a network client device.

19. (Original) The system of claim 15,

wherein the process is executing in the second memory; and

wherein a total size of the store heap is greater than available memory space in the second memory.

20. (Original) The system of claim 15,

wherein the first memory coupled to the device is a flash memory;

wherein the store heap comprises a plurality of cache lines; and

wherein the section of the store heap comprises one or more of the plurality of cache lines.

21. (Original) The system of claim 15,

wherein the first memory is coupled to the device via the Internet so that the virtual machine virtual memory manager copying the section of the store heap to the in-memory heap occurs over the Internet.

22. (Original) The system of claim 15,

wherein the virtual machine is a Java virtual machine, and wherein the process is a Java application.

23. (Original) The system of claim 15, further comprising:

wherein the first memory comprises a persistent store configured to store a plurality of store heaps, and wherein each of the plurality of store heaps is associated with one of a plurality of processes, and wherein the store heap for the process is one of the plurality of store heaps, and wherein the process is one of the plurality of processes.

24. (Original) The system of claim 15,

wherein the objects comprised in the in-memory heap and the store heap comprise code and data for use by the process during execution within the virtual machine.

25. (Currently amended)   A   carrier   medium   comprising   programming instructions executable to manage a virtual memory in a virtual machine, wherein the

virtual machine provides a platform-independent operating environment on a particular computer platform, wherein the virtual machine comprises a virtual machine virtual memory manager, and wherein the program instructions are executable to implement:

storing objects for a process executing on the virtual machine to a store heap, wherein the objects are for use during execution of the process; and

copying a section of the store heap including a first object to an in-memory heap in response to the process referencing the first object, wherein the in-memory heap comprises copies of sections of the store heap for the process; and

wherein said copying is performed when the first object referenced by the process is in the section of the store heap and not in the in-memory heap when the first object is referenced by the process.

26. (Original) The carrier medium of claim 25, wherein the program instructions are executable to implement:

replacing the section of the store heap with the copy of the section from the in-memory heap including the first object in response to the process modifying the first object in the in-memory heap; and

removing the copy of the section from the in-memory heap after said replacing the section of the store heap.

27. (Original) The carrier medium of claim 25,

wherein the virtual machine is executing on a device;

wherein the device comprises a memory; and

wherein the virtual machine is executing in the memory comprised in the device; and

wherein the device has insufficient execution memory to store an entire heap for the process executing on the virtual machine.

28. (Original) The carrier medium of claim 25,

wherein the process is executing in a first memory space comprised in the virtual machine;

wherein the in-memory heap is comprised in the first memory space;

wherein a total size of the store heap is greater than available memory space in the first memory space; and

wherein the store heap is comprised in a second memory space.

29. (Original) The carrier medium of claim 25,

wherein the virtual machine is executing on a device; and

wherein the store heap is comprised in a memory device coupled to the device.

30. (Original) The carrier medium of claim 29,

wherein the memory device coupled to the device is a flash memory;

wherein the store heap comprises a plurality of cache lines; and

wherein the section of the store heap comprises one or more of the plurality of cache lines.

31. (Original) The carrier medium of claim 29,

wherein the memory device comprising the store heap is coupled to the device via the Internet so that the virtual machine virtual memory manager copying the section of the store heap to the in-memory heap occurs over the Internet.

32. (Original) The carrier medium of claim 25,

wherein the virtual machine is a Java virtual machine, and wherein the process is a Java application.

33. (Original) The carrier medium of claim 25,

wherein the store heap is one of a plurality of store heaps in a persistent store;

wherein each of the plurality of store heaps is associated with one of a plurality of processes; and

wherein the process is one of the plurality of processes.

34. (Original) The carrier medium of claim 25,

wherein the objects comprised in the in-memory heap and the store heap comprise code and data for use by the process during execution within the virtual machine.